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ABSTRACT

Graduates of high school, two-year college, and four-year college business programs were surveyed to determine the perceived relevance of that education, job and salary levels secured, and graduates' opinions of their education. Questionnaires eliciting information on job titles, amount of education necessary to obtaining their jobs, and the number of people they supervised, were sent to 340 high school, 122 two-year college, and 170 four-year college business graduates one year after graduation. Respondents wrote what they did on their jobs and/or attached copies of job descriptions. To control for experience, only graduates aged 17-19, 19-21, and 21-23 were surveyed. A 52.1% overall response rate was obtained. At each successive education level, the number of full-time employed graduates increased from 53.6% at the high school, to 69.1% at the two-year college, and 78.1% at the four-year college level. Those employed in areas relating to their majors included 45.5% of high school, 48.9% of two-year college, and 52% of four-year college graduates. There was a very strong correlation between education and job levels and between education and salary levels: high school graduates had 53.4% in semiskilled and 29.3% in skilled jobs; two-year college graduates had 23.3% in skilled and 63.3% in technical jobs; and four-year college graduates had 27.6% in technical and 62.1% in professional jobs. (TR)

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A COMPARATIVE STUDY OF HIGH SCHOOL, TWO-YEAR COLLEGE, AND
FOUR-YEAR COLLEGE VOCATIONAL/TECHNICAL/PROFESSIONAL
SELECTED BUSINESS GRADUATES WITH REGARD TO THEIR
FIRST FULL-TIME JOB AND SALARY OBTAINED AFTER GRADUATION

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Presented to

The Association for Institutional Research
Houston, Texas

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A COMPARATIVE STUDY OF HIGH SCHOOL, TWO-YEAR COLLEGE, AND
FOUR-YEAR COLLEGE VOCATIONAL/TECHNICAL/PROFESSIONAL
SELECTED BUSINESS GRADUATES WITH REGARD TO THEIR
FIRST FULL-TIME JOB AND SALARY OBTAINED AFTER GRADUATION

Background for the Study

Vocational and Technical Education has long been a part of the college curriculum. Stephen Van Rensselaer's School of Theoretical and Practical Science was originally founded in 1825 to prepare teachers who would "instruct the sons and daughters of local farmers and mechanics in the art of applying science to husbandry, manufactures, and domestic economy." In 1835 and again in 1849 it was further reorganized to add courses in civil engineering, education of architects, and Civil, Mining, and Topographical Engineers.¹ Eliphalet Nott founded a department of civil engineering at Union College in 1845. In 1847 the Lawrence Scientific School was founded as a part of Harvard, and in the same year Yale instituted a new department known as the Sheffield Scientific School. In 1852 Dartmouth founded the Chandler Scientific School, and in 1865 The Massachusetts Institute of Technology was opened.²

It was not, however, until the passage of the Morrill Act in 1862 that college education undertook a major redirection in America. The following were some of the implications for vocational and technical education:

¹John S. Brubacher and Willis Rudy, Higher Education in Transition (New York: Harper & Row, Publishers, Incorporated, 1968), p. 63.

²Ibid., pp. 63-64.

1. A liberal and practical education was prescribed. The two were not to be placed in separate camps. The classical studies were integrated into curricula that were plainly vocational, and both were to be accommodated without any sense of inferiority.
2. As the financial and philosophical basis of the state university systems, they opened the doors of higher education to a far wider public, removing forever the idea of a single education for a select few.
3. The act gave important status to the mechanic arts and agriculture. Science was to be taught, not for its own sake, but as an instrument for molding the societal environment.
4. The new form of education broke through the suspicions and fears of education of farmers and businessmen. The resistance to agriculture and mechanic education in college, noted earlier, gradually was overcome by the extension programs, experimental farms, and the success of graduates over the first two decades of the operation of the new colleges. This acceptance of vocationalism in the colleges was to have much significance in the later movement to extend vocationalism into the public schools.³
(Emphasis added)

From the colleges, vocationalism spread to the high schools. With the deciding of the Kalamazoo case in 1874 the high school education was brought to the masses.⁴ The next act of significance was the Smith-Hughes Act of 1917. This act set the tone of vocational education to be "terminal" and ". . . less than college grade" for the next fifty years.⁵

³Grant Venn, Man, Education and Work, Postsecondary Vocational and Technical Education (Washington: American Council on Education, 1964), p. 45.

⁴Martin Haberman and T. M. Stinnett, Teacher Education and the New Profession of Teaching (Berkeley: McCutchan Publishing Corporation, 1973, p. 41.

⁵Venn, Op. Cit., p. 14.

It was not until the passage of the Vocational Education Act of 1963 that the Smith-Hughes philosophy began to fade away. Of the five major areas of service, the following two have significance to this discussion:

1. High School Youth. Present occupational programs should be expanded and to them should be added wider pre-employment courses in office, distributive, and agricultural occupations.
2. Post-High-School Opportunities. Federal Support should be increased to provide youth and adults with greater opportunities for full-time, post-high-school vocational and technical education.⁶

The passage of this Act and its Amendments of 1968 and the passage of the Higher Education Facilities Act of 1963, which had as a stated purpose". . . to accommodate mounting student enrollments and to meet demands for skilled technicians and for advanced graduate education," enabled new programs to be developed in both vocational and technical education at both the high school and the two-year college level.

On the national level Sidney Marland, then Commissioner of Education, developed the concept of Career Education. This concept, the reversal of the Smith-Hughes philosophy, considered no education as "terminal."⁷ Instead, education was considered a progression of both liberal and practical education from kindergarten through high school junior college, college and beyond (life-long learning). Through the funds received from the 1963 Vocational Act and its Amendments, Ohio launched a massive restructuring of education, and many new programs

⁶Venn, Op. Cit., pp. 123-124.

⁷U.S., Health, Education, and Welfare, Department of, "Marland on Career Education," American Education, No. (OE) 72-52 (Washington: Government Printing Office, 1971), p. 1.

were developed. Locally, the Toledo Public Schools attached six new Skill Centers to existing high school and three free standing Skill Centers were built to meet the needs of vocational students that increased from 916 in 1965-66 to 8,104 in 1974-75.⁸ The stated purpose of vocational education was to prepare students for entry-level positions from as early as grade 10 and most assuredly from high school.

The two two-year colleges in the Toledo area also have seen rapid increases in enrollment. The combined 1974-75 graduates for both institutions numbered 690.⁹⁻¹⁰ These two institutions have stated in their literature that they are preparing students for "paraprofessional and technical"¹¹ and "technologist"¹² jobs.

Finally, the four-year College of Business Administration at The University of Toledo, which graduated 232 during 1974-75¹³, stated that it prepared students for "professional"¹⁴ positions.

⁸R.T. Scherer, Executive Director of Vocational, Industrial, Adult Education, The Toledo Public Schools, personal interview, August 1, 1974, and subsequent contacts through 1974-75 school year.

⁹Ivan Kurtz, Assistant to the President and Director of Institutional Research, Michael J. Owens Technical College, telephone interview, September 7, 1976.

¹⁰"ComTech Community College Graduation Lists," August, 1974-June, 1975.

¹¹The University Community and Technical College, 1974-75 Bulletin of The University of Toledo, "Purposes and Objectives" (Toledo: The University of Toledo), pp. 2-3.

¹²Owens Technical College Catalog, 1974, "Philosophy and Practice" (Perrysburg: Michael J. Owens Technical College), pp. 7-8.

¹³"Graduates of 1974-75," The College of Business Administration.

¹⁴College of Business Administration, 1974-75 Bulletin of The University of Toledo, "Accreditation" (Toledo: The University of Toledo) p. 2.

In reviewing the literature from the Department of Health, Education and Welfare, Bureau of Labor Statistics, much information was found showing that as the amount of education increased so did the amount of money earned.

Purpose of the Study

In reviewing the literature, no comparative study was found that revealed whether or not graduates from the schools representing these three levels of education actually achieved these levels of jobs, whether or not their education was considered relevant to what they were doing on the job, and whether or not the amount of money earned increased as the amount of education became greater.

It is, therefore, the purpose of this paper to report the findings of a 1975 study that sought to determine at each successive level of education 1) the perceived relevance of that education to the graduates, 2) the level of jobs and salaries secured, and 3) graduates' opinions of the education just completed.

Methods

An attention-getting questionnaire was developed (see Appendix A) to survey the three populations--high school graduates, two-year college graduates, and four-year college graduates. The graduates on their first full-time jobs were asked to give their job titles, the job titles of the people to whom they reported, the amount of education needed to obtain their jobs, and the number of people they supervised. They were also asked to write what they did on their respective jobs and/or attach a job description if they had one. In an attempt to control for experience, only graduates whose ages were between 17-19 for high school, 19-21 for two-year college, and 21-23 for four-year college were used.

To classify the jobs by levels, the investigator went to the Dictionary of Occupational Titles (DOT). The DOT classifies jobs on a task analysis basis according to the worker's skills and knowledge. The worker's skills are classified on a scale ranging from one to nine indicating levels of specific vocational preparation. An explanation of the various levels of Specific Vocational Preparation¹⁵ is shown in Table I.

Table I

Specific Vocational Preparation
U. S. Department of Labor Classification

Level	Time
1	Short demonstration only
2	Anything beyond short demonstration up to and including 30 days
3	Over 30 days up to and including 3 months
4	Over 3 months up to and including 6 months
5	Over 6 months up to and including 1 year
6	Over 1 year up to and including 2 years
7	Over 2 years up to and including 4 years
8	Over 4 years up to and including 10 years
9	Over 10 years

In the DOT, the worker's knowledges are also classified on a scale ranging from one to six indicating General Educational Development.¹⁶ Table II shows an explanation of the various levels of General

¹⁵ U.S. Department of Labor, Manpower Administration Bureau of Employment Security, Dictionary of Occupational Titles, 1965, Vol. I, Definitions of Titles, 3rd Ed. (Washington, D.C.: U.S. Government Printing Office), p. A-5.

¹⁶ Ibid., p. A-8.

Table II
General Educational Development
U. S. Department of Labor Classification

Level	Reasoning Development	Mathematical Development	Language Development
6	Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.	Apply knowledge of advanced mathematical and statistical techniques such as differential and integral calculus, factor analysis, and probability determination or work with a wide variety of theoretical mathematical concepts and make original applications of mathematical procedures as in empirical and differential equations.	Comprehension and expression of a level to-- --Report, write, or edit articles for such publications as newspapers, magazines, and technical or scientific journals. Prepare and draw up deeds, leases, wills, mortgages, and contracts.
5	Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions, in books, manuals, and mathematical or diagrammatic form. Deal with several abstract and concrete variables.		--Prepare and deliver lectures on politics, economics, education, or science. --Interview, counsel, or advise such people as students, clients, or patients, in such matters as welfare eligibility, vocational rehabilitation, mental hygiene, or marital relations. --Evaluate engineering technical data to design buildings and bridges.

Table II (continued)

Level	Reasoning Development	Mathematical Development	Language Development
4	Apply principles of rational systems to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic or schedule form.	Perform ordinary arithmetic, algebraic, and geometric procedures in standard, practical applications.	Comprehension and expression of a level to-- --Transcribe dictation, make appointments for executive and handle personal mail, interview and screen people wishing to speak to him, and write routine correspondence on own initiative. --Interview job applicants to determine work best suited for their abilities and experience, and contact employers to interest them in services of agency. --Interpret technical manuals as well as drawings and specifications, such as layouts, blueprints, and schematics.
3	Apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form. Deal with problems involving several concrete variables in or from standardized situations.	Make arithmetic calculations involving fractions, decimals, and percentages.	Comprehension and expression of a level to-- --File, post, and mail such material as forms, checks, receipts, and bills. --Copy data from one record to another, fill in report forms and type all work from rough draft or corrected copy.

Table I' (continued)

Level	Reasoning Development	Mathematical Development	Language Development
2	Apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables in or from standardized situations.	Use arithmetic to add, subtract, multiply, and divide whole numbers.	--Interview members of household to obtain such information as age, occupation, and number of children, to be used as data for surveys or economic studies.
1	Apply common sense understanding to carry out simple one- or two-step instructions. Deal with standardized situations with occasional or no variables in or from these situations encountered on the job.	Perform simple addition and subtraction, reading and copying of figures, or counting and recordings.	Comprehension and expression of a level to-- --Learn job duties from oral instructions or demonstrations. --Write identifying information, such as name and address of customer, weight, number or type of product, on tags or slips. --Request orally, or in writing, such supplies as linen, soap, or work materials.

Educational Development. (The ages of all the respondents are reported in Table XV in Appendix B).

By combining the amount of General Educational Development with the amount of Specific Vocational Preparation, the following career levels were developed: GED levels of 1-2 and SVP of Level 2 would enable the worker to perform at the unskilled level. GED levels of 3-4 and SVP of 3-4 would enable the worker to perform at the semi-skilled level. GED levels of 3-4 and SVP of 5 would enable the worker to perform at the skilled level. GED of 3-4 and SVP of 6 would enable the worker to perform at the semiprofessional, technical, or paraprofessional level. Finally a GED level of 5 coupled with a SVP of 7 or 8 would enable the worker to perform at the professional level. The following table shows this categorization.

Table III
Composition of Career Levels

General Educational Development	Specific Vocational Preparation	Career Level	Career Level Scale
1-2	1-2	Unskilled	1
3-4	3-4	Semiskilled	2
3-4	5	Skilled	3
3-4	6	Semiprofessional Technical Paraprofessional	4
5		Professional	5

After the respondents' job descriptions were matched with the descriptions in the Dictionary of Occupational Titles, the DOT Code Number was then used to look up the GED and SVP Codes in the Supplement to the Dictionary of Occupational Titles. The Career Ladder of the Business and Office cluster as shown in Table IV was then developed.

Once the various jobs were rated as to unskilled (Level 1), semi-skilled (Level 2), and skilled (Level 3), technical or paraprofessional (Level 4), and professional (Level 5), a coefficient of contingency was used to determine whether or not there was a correlation between 1) the level of education and the level of job secured and 2) the level of education and the amount of salary earned.

Data Source

The study was composed of a high school population consisting of 340 vocational business block graduates from ten city high schools, a two-year college population consisting of 122 business graduates from selected technical business programs, and a four-year college population consisting of 170 business graduates from selected professional business programs. All the 1974-75 school-year graduates from these selected programs were used.

High School. The high school population was drawn from Toledo public high schools that drew their students from census tracts that had these characteristics: The median family income ranged from a low of \$3,500 to a high of \$18,716. The median school years completed of the adult population ranged from 8.6 to 14.4. The percentage of owner

Table IV
Career Ladder
Business and Office Cluster

DOT Code	Industry	DOT Title	Training Time		Career Level
			GED	SVP	
230.878	Clerical	Messenger	2	2	1
207.884	Clerical	Duplicating Machine Operator	2	2	1
209.588	Clerical	Clerk General	3	2	1
203.588	Clerical	Typist	3	3	2
235.862	Tel. & Tel.	Switchboard Operator	3	3	2
208.588	Clerical	Transcribing Machine Operator	3	3	2
235.862	Clerical	Telephone Operator	3	3	2
216.488	Clerical	Calculating Machine Operator	3	3	2
203.582	Clerical	File Clerk I	3	3	2
209.388	Clerical	Clerk Typist	3	4	2
203.582	Clerical	Vari-typist	3	4	2
219.388	Clerical	Billing Clerk	3	4	2
214.488	Clerical	Billing-Machine Operator	3	4	2
249.388	Clerical	Credit Authorizer	3	4	2
213.582	Clerical	Key punch Operator	3	4	2
249.388	Banking	Securities Clerk	3	4	2
210.388	Clerical	Bookkeeper II	4	3	2
219.488	Clerical	Cost Clerk	4	3	2
237.368	Clerical	Receptionist	3	5	3
213.382	Clerical	Computer Peripheral Equip. Operator	4	4	3
202.388	Clerical	Stenographer	3	5	3
206.388	Clerical	File Clerk II	3	5	3
215.488	Clerical	Payroll Clerk	4	5	3

Table IV (continued)

DOT Code	Industry	DOT Title	Training Time		Career Level
			GED	SVP	
202.388	Clerical	Court Reporter	3	6	4
249.368	Clerical	Credit Clerk I	4	6	4
201.368	Clerical	Secretary	4	6	4
201.368	Clerical	Medical Secretary	4	6	4
201.368	Clerical	Legal Secretary	4	6	4
213.382	Clerical	Digital Computer Operator	4	6	4
210.388	Clerical	Bookkeeper I	4	6	4
188.168	Govt. Ser.	Revenue Agent	4	6	4
185.168	Ret. Tr.	Manager, Store I (Retail)	4	7	4
003.181	Prof. & Kin.	Comp. Laboratory Technician	4	7	4
299.138	Ret. Tr.	Manager, Dept.	4	7	4
020.188	Prof. & Kin.	Digital Computer Programmer	5	7	5
160.288	Prof. & Kin.	Cost Estimator	5	7	5
091.228	Education	Business Teacher	5	7	5
162.158	Ret.Tr.;Whsle.Tr.	Buyer II	5	7	5
169.168	Any Ind.	Administrative Secretary	5	8	5
160.188	Prof. & Kin.	Auditor	5	8	5
166.118	Prof. & Kin.	Personnel Manager	5	8	5
169.168	Any Ind.	Office Manager	5	8	5
160.188	Prof. & Kin.	Jr. Accountant	5	8	5
160.188	Prof. & Kin.	Accountant	5	8	5
186.118	Prof. & Kin.	Controller	5	8	5

occupied dwellings ranged from 16.2 to 93.9.¹⁷ Therefore, it can be assumed that the students from these schools represented a broad cross section of the population.

All the 1974-75 vocational business and office graduates from the State vocationally funded programs from ten City of Toledo public high schools were used. These programs included Clerical, Stenographic, Account Clerk, Data Accounting, Data Processing, Transportation Clerk, and Machines.

Since all funded vocational block programs at the high school level are required to follow state standards and must pass PRIDE (Program Review for Improvement, Development, and Evaluation) once every five years, this investigator considered the business and office programs in this geographic area to be representative of programs throughout Ohio.

Two-Year Colleges. The two-year programs that were selected were those that would logically, in the investigator's opinion, complement and expand upon the high school programs. In other words, should graduates from specific high school programs decide to continue their education in the same or a related area, these selected business programs would be the ones in which they would continue. These programs are General Secretarial Technology, Legal Secretarial Technology, Executive Secretarial, Accounting, Business Management Technology, Computer Programming Technology, and Traffic Management Technology.

¹⁷ Market Data by Census Tracts for Toledo, Ohio, Standard Metropolitan Statistical Area. Prepared by The Blade - The Toledo Times (Based on 1970 Census).

The two two-year colleges were chosen because they both drew heavily on area high schools for their students. Fall, 1974, calculations indicated that one college, Owens Technical College, received approximately 49 percent of its 1973 student body from the high schools from which the high school population in this study was drawn.¹⁸ The other two-year college, The Community and Technical College, is part of a state university, and was designed to provide technical education for individuals who reside in metropolitan Toledo and Northwestern Ohio. Its population is mostly commuter with approximately half of it considered evening division.

Since both two-year colleges are accredited by the North Central Association of Colleges and Secondary Schools and both meet Ohio Board of Regents guidelines for their programs, the investigator considered their business programs very representative of other two-year business programs throughout the State of Ohio.

Four-Year College. The four-year programs that were selected were those that logically, in the investigator's opinion, would complement and expand upon the two-year college programs. In other words, should graduates from the selected two-year programs decide to continue their education in the same or related area, these selected business programs would be the most logical in which they would continue. These programs included Office Administration and Business Education, Organizational Administration, Accounting, Operations Analysis, and Logistics and Transportation.

¹⁸Kurtz, Op. Cit. interview.

The four-year college is the College of Business Administration of The University of Toledo. It is designed to provide professional education to the metropolitan area and Northwestern Ohio. Since this college meets accreditation standards of the American Assembly of Collegiate Schools, the investigator considered its programs very representative of other four-year colleges not only throughout the State of Ohio but of the North Central area as well.

Results

A 52.1 percent overall response rate to the questionnaire was achieved from the three populations which consisted of 112 high school graduates (32.9 percent), 94 two-year college graduates (77.0 percent), and 123 four-year college graduates (72.4 percent). This information is shown in Table V. The census was taken within a year after graduation. It was determined that the characteristics of the nonrespondents at the high school level did not differ from those of the respondents.

Relevance of Education. By surveying graduates after they had been out of school for a period of time, it could be determined whether or not the graduates felt that their education helped them. By going one step further and comparing the graduates at each of the three levels of education it could then be determined whether or not the additional education they acquired actually made a difference in their status.

At each successive level of education (high school, two-year college, and four-year college) the number of graduates employed full time increased from 53.6 percent at the high school level, to 69.1 percent at the two-year college, to 78.1 percent at the four-year college

Table V

High School, Two-Year College, and Four-Year College
Vocational/Technical/Professional Business
Respondents From Each Program for
the School Year 1974-75

Level of Education	Population	Respondents	
	N	N	%
High School			
Clerical	162	45	27.8%
Stenographic	106	49	46.2
Account Clerk	11	1	9.1
Data Accounting	22	6	27.2
Data Processing	17	5	29.4
Transportation Clerk	8	1	12.5
Machines	14	5	35.7
Subtotal	340	112	32.9
Two-Year College			
General Secretarial Tech.	12	6	50.0
Legal Secretarial Tech.	21	17	81.0
Executive Secretarial	7	6	85.7
Accounting	11	9	81.8
Business Management Tech.	39	31	79.5
Computer Programming Tech.	29	24	82.8
Traffic Management Tech.	3	1	33.3
Subtotal	122	94	77.0
Four-Year College			
Office Adm. and Bus. Ed.	17	9	52.9
Organizational Adm.	49	39	79.6
Accounting	75	58	77.3
Operations Analysis	25	15	60.0
Logistics and Transportation	4	2	50.0
Subtotal	170	123	72.4
Total	632	329	52.1%

level. This information is shown in Table VI.

The number of graduates employed full time in the same or related area to their past major increased from 45.5 percent at the high school level to 48.9 percent at the two-year college level to 52.0 percent at the four-year college level. The number of graduates who were employed full time in an unrelated area also increased from 8 percent at the high school level, to 12.8 percent at the two-year college level, to 23.6 percent at the four-year college level. The information is shown in Table VII.

A large percentage of graduates at each level of education continued their education 31.3 percent at the high school, 40.4 percent at the two-year college, and 18.7 percent at the four-year college level. It should be also noted that the high school respondents had the largest number continuing their education in an unrelated area. This information is shown in Table VIII.

Level of Job. There was a very strong correlation between the level of education and the level of job secured by the respective graduates. High school graduates had 53.4 percent working at semiskilled and 29.3 percent at skilled jobs, two-year college graduates had 23.3 percent working at skilled and 63.3 percent at technical jobs, and four-year college graduates had 27.6 percent working at technical and 62.1 percent at professional jobs. The previous information is depicted in Table IX.

To determine whether being male or female had any relationship to the level of first full-time job achieved after graduation, the population of each group, as is shown in Table X, was divided between male

Table VI

Employment Status of Selected 1974-75 Toledo-Area Vocational/Technical/
Professional Business Graduates, Classified by Educational Level
Fall, 1975

	High School		Two-Year College		Four-Year College		Total	
	N	%	N	%	N	%	N	%
Employed Full Time	53	47.3%	42	44.7%	81	65.9%	176	53.5%
Employed FT/Attend School FT	3	2.7	2	2.1	2	1.6	7	2.1
Employed FT/Attend School PT	4	3.6	21	22.3	13	10.6	38	11.6
Total Employed FT	60	53.6	65	69.1	96	78.0	221	67.2
Employed Part Time	7	6.3	2	2.1	7	5.7	16	4.9
Employed PT/Attend School FT	10	8.9	8	8.5	3	2.4	21	6.4
Employed PT/Attend School PT	1	.9	1	1.1	2	1.6	4	1.2
Total Employed PT	18	16.1	11	11.7	12	9.8	41	12.5
Unemployed	12	10.7	6	6.4	7	5.7	25	7.6
Attend School FT/Unemployed	15	13.4	4	4.3	2	1.6	21	6.4
Attend School PT/Unemployed	2	1.8	2	2.1	1	.8	5	1.5
Care for Home FT/Attend School Full or Part Time	--	--	--	--	--	--	--	--
Care for Home Full Time	4	3.6	3	3.2	2	1.6	9	2.7
Joined the Military	1	.9	--	--	3	2.4	4	1.2
Other	--	--	3	3.2	--	--	3	.9
Total	112	100.0%	94	100.0%	123	100.0%	329	100.0%

Table VII

Full- and Part-Time Employment Related to Previous Majors of Selected
1974-75 Toledo-Area Vocational/Technical/Professional
Business Graduates Classified by Educational Level
Fall, 1975

Respondents	Total N	Employed in Same or Related Area		Employed in Unrelated Area		No Response		Total Employed and in Military	
		N	%	N	%	N	%	N	%
High School Graduates	112								
Employed Part Time		9	8.0%	6	5.4%	3	2.7%	18	16.1%
Employed Full Time		51	45.5	9	8.0	1	.9	61	54.5
Sub-Total		60	53.4	15	13.4	4	3.6	79	70.5
Two-Year College Graduates	94								
Employed Part Time		4	4.2	6	6.4	1	1.1	11	11.7
Employed Full Time		46	48.9	12	12.8	7	7.4	65	69.1
Sub-Total		50	53.2	18	19.2	8	8.5	76	80.9
Four-Year College Graduates	123								
Employed Part Time		5	4.1	5	4.1	2	1.6	12	9.8
Employed Full Time		64	52.0	29	23.6	6	4.9	99	80.5
Sub-Total		69	56.1	34	27.6	8	6.5	111	90.2
Total	329	179	54.4%	67	20.3%	20	6.0%	266	80.8%

Table VIII

Full- and Part-Time Continuing-Education Enrollment Related to Previous
Majors of Selected 1974-75 Toledo-Area Vocational/Technical/
Professional Business Graduates Classified by
Educational Level, Fall, 1975

Continuance of Education	High School (N = 112)		Two-Year College (N = 94)		Four-Year College (N = 123)		Total (N = 329)	
	N	%	N	%	N	%	N	%
In Same or Related Area	22	19.6%	33	35.1%	20	16.3%	75	22.8%
In Unrelated Area	11	9.8	4	4.3	3	2.4	18	5.5
No Answer	<u>2</u>	<u>1.8</u>	<u>1</u>	<u>1.1</u>	<u>--</u>	<u>--</u>	<u>3</u>	<u>.9</u>
Total Continuing	35	31.3%	38	40.4%	23	18.7%	96	29.2%

Table IX

Level of First Full-Time Job Obtained After Graduation by Selected 1974-75
Toledo-Area Vocational/Technical/Professional Business
Graduates Classified by Educational Level
Fall, 1975

Level of Education	Age	Total Respondents Working Full-Time	Total Respondents on First Full-Time Job N %	Level of Job Based on Career Scale ^b				
				1 N % ^a	2 N % ^a	3 N % ^a	4 N % ^a	5 N % ^a
High School	17-19	60	58 96.7	3 5.2	31 53.4	17 29.3	7 12.1	-- --
2-Year Col.	19-21	65	30 46.2	-- --	4 13.3	7 23.3	19 63.3	-- --
4-Year Col.	21-23	96	29 30.2	-- --	2 6.8	1 3.4	8 27.6	18 62.1

^aPercentages are based only on those respondents working on their first full-time job.

^bCareer Scale

- Level 1 - Unskilled
- Level 2 - Semiskilled
- Level 3 - Skilled
- Level 4 - Technical, paraprofessional, semiprofessional
- Level 5 - Professional

Table X

The Relationship of Being Male or Female to Level of First Full-Time Job of
 Selected 1974-75 Toledo-Area Vocational/Technical/Professional
 Business Graduates Classified by Educational Level
 Fall, 1975

Level of Education	Sex	Total Respondents on First Full-Time Job N %	Level of Job Based on Career Scale ^a				
			1	2	3	4	5
			N %	N %	N %	N %	N %
High School Ages 17-19	Male	-- --	-- --	-- --	-- --	-- --	-- --
	Female	58 100.0	3 5.7	31 53.4	17 29.3	7 12.1	-- --
	No Information	-- --	-- --	-- --	-- --	-- --	-- --
Two-Year College Ages 19-21	Male	5 100.0	-- --	2 40.0	1 20.0	2 40.0	-- --
	Female	25 100.0	-- --	2 8.0	6 24.0	17 68.0	-- --
	No Information	-- --	-- --	-- --	-- --	-- --	-- --

Table X (continued)

Level of Education	Sex	Total Respondents on First Full-Time Job N %	Level of Job Based on Career Scale ^a									
			1		2		3		4		5	
			N	%	N	%	N	%	N	%	N	%
Four-Year College	Male	26 100.0	--	--	2	7.6	1	3.8	7	26.9	16	61.5
	Female	3 100.0	--	--	--	--	--	--	1	33.3	2	66.7
Ages 21-23	No Information	-- --	--	--	--	--	--	--	--	--	--	--

^aCareer Scale

Level 1 - Unskilled

Level 2 - Semiskilled

Level 3 - Skilled

Level 4 - Technical, paraprofessional, semiprofessional

Level 5 - Professional

and female respondents. The males and females were then classified as to the level of their respective jobs. At the high school level, it should be noted that there were no males who were in their first full-time job. Even though the two two-year colleges had a small number of males in the 19-21 age grouping, this grouping was taken from the entire population and not from just a sample; consequently, being from the entire population, the number is a valid number. Women numbered 68 percent in Level 4 (paraprofessional) jobs as compared to 40 percent for the men. The reason for such a small population of men at the two-year college level was that men tended to enter the two-year college at various times throughout their adult lives; consequently, with the mean age for men at 27.3, many men were eliminated from the age grouping of 19-21. At the four-year college level, there did not seem to be much of a difference between the level of first full-time jobs obtained after graduation by men and women. As was previously stated, even though the total number of women was small, it was taken from an entire population and it was actual. Women had 66.7 percent of their population in professional level positions as compared to 60 percent for the men.

Amount of Salary. There was a very strong correlation between the level of education and the amount of salary earned. The median for high school graduates' salaries was in the \$4,000 to \$4,999 range; for two-year college graduates' salaries, in the \$6,000 to \$7,499 range; and for four-year college graduates' salaries, in the \$9,000 to \$10,499 range. This information is shown in Table XI.

When the males and females' salaries were compared, the following results were found: At the high school level, there were only female

Table XI

Salary Status on First Full-Time Jobs Obtained by Selected
1974-75 Toledo-Area Vocational/Technical/Professional
Business Graduates Classified by Educational Level
Fall, 1975

Level of Education	No Information	Range of Salary										Total Respondents Answering Questions
		Under \$3,000	\$3,000-\$3,999	\$4,000-\$4,999	\$5,000-\$5,999	\$6,000-\$7,499	\$7,500-\$8,999	\$9,000-\$10,499	\$10,500-\$12,499	\$12,500-\$14,999	\$15,000 and above	
		N %	N %	N %	N %	N %	N %	N %	N %	N %	N %	N %
High School Ages 17-19	2	6 10.7	5 8.9	26 46.4	14 25.0	4 7.1	1 1.8	-- --	-- --	-- --	-- --	56 100.0
Two-Year College Ages 19-21	2	-- --	1 3.6	2 7.1	9 32.1	10 35.7	4 14.3	2 7.1	-- --	-- --	-- --	28 100.0
Four-Year College Ages 21-23	--	-- --	-- --	-- --	1 3.4	2 6.9	7 24.1	8 27.6	4 13.8	6 20.7	1 3.4	29 100.0

respondents in their first full-time jobs. At the two- and four-year college level, even though the number of respondents was small, the evidence seems to indicate that men still were receiving higher salaries than women with comparable education. At the two-year college level, 25 percent of the male respondents had salaries in the \$9,000 and above range as compared with 4.2 percent for women. Men had 75 percent making \$6,000 and above as compared with 55.2 percent for women. At the four-year college level, 73.1 percent of the men had salaries over \$9,000 while none of the women did. A woman also had the lowest salary at both the two-year and the four-year levels. This information is shown in Table XII.

Opinion of Education. Two-year college respondents had the largest percentage rating both their academic business education and their academic education as "Excellent" or "Good"; high school graduates were next; and four-year college graduates were last. It should be noted at the four-year college level that 27.3 percent of the respondents rated their Academic Business Education as "Fair" or "Poor," and 38.1 percent rated their Academic Education as "Fair" or "Poor." This information is shown in both Tables XIII and XIV.

When asked what courses should be added or deleted from the curriculum, at both the two-year and four-year level Business Communications was listed as both a course to be deleted and to be added to the curriculum. It would appear that Business Communications as it is presently being taught is not meeting the needs of the students.

Table X//

The Relationship of Being Male or Female to Salaries Obtained on First Full-Time
Jobs of Selected 1974-75 Toledo-Area Vocational/Technical/Professional
Business Graduates Classified by Educational Level
Fall, 1975

Level of Education	Sex	Range of Salary										Total Respondents in Age Grouping Answering Questions
		Under \$3,000	\$3,000-\$3,999	\$4,000-\$4,999	\$5,000-\$5,999	\$6,000-\$7,499	\$7,500-\$8,999	\$9,000-\$10,499	\$10,500-\$12,499	\$12,500-\$14,999	\$15,000 and over	
High School Ages 17-19	M	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --
	F	6 10.7	5 8.9	26 46.4	14 25.0	4 7.1	1 1.0	-- --	-- --	-- --	-- --	56 100.0
	No Information	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	2 --
Two-Year College Ages 19-21	M	-- --	-- --	1 25.0	-- --	2 50.0	-- --	1 25.0	-- --	-- --	-- --	4 100.0
	F	-- --	1 4.2	1 4.2	9 37.5	8 33.3	4 16.7	1 4.2	-- --	-- --	-- --	24 100.0
	No Information	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	2 --
Four-Year College Ages 21-23	M	-- --	-- --	-- --	-- --	2 7.7	5 19.2	8 30.7	4 15.3	6 23.1	1 3.8	26 100.0
	F	-- --	-- --	-- --	1 33.3	-- --	2 66.7	-- --	-- --	-- --	-- --	3 100.0
	No Information	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	0 --

Table XIII

Comparison of Opinions on Previous Academic Education by Selected
1974-75 Toledo-Area Vocational/Technical/Professional
Business Graduates Classified by Educational Level
Fall, 1975

Level of Education	Total N %	Rating					No Response N %
		Excellent N %	Good N %	Fair N %	Poor N %		
High School	87 100.0	12 13.8	45 51.7	26 29.9	4 4.6	25 22.3	
Two-Year College	81 100.0	13 16.0	42 51.9	20 24.7	6 7.4	13 13.8	
Four-Year College	113 100.0	13 11.5	57 50.4	35 31.0	8 7.1	10 8.1	

Table XIV

Comparison of Opinions on Previous Academic Business Education by
 Selected 1974-75 Toledo-Area Vocational/Technical/Professional
 Business Graduates Classified by Graduation Level
 Fall, 1975

Level of Education	Total N %	Rating				
		Excellent N %	Good N %	Fair N %	Poor N %	No Response N %
High School	92 100.0	27 29.3	50 54.3	14 15.2	1 1.1	20 7.9
Two-Year College	79 100.0	21 26.6	47 59.5	11 13.9	-- --	15 16.0
Four-Year College	113 100.0	13 11.5	69 61.1	24 21.2	7 6.2	10 8.1

When asked whether or not a practical work experience program should be added to the curriculum, overwhelmingly graduates at both the two- and four-year levels said "yes." The only objection to adding such a course came from those students who were working full time and going to school. These students did not think that they could fit it into their schedules.

Educational Implications of this Study

Some questions that are raised after reviewing this study are the following:

1. Does the amount of education in years and degrees account for the higher incomes and higher level of jobs rather than the quality of skills learned? If duplication of curriculum between the levels is quite high, then the quality of the education doesn't mean very much--just the quantity of it.
2. Do age levels, and sex account for the higher incomes when the amount of education is controlled? If that is the case, then the education may not be very important in this sector of the labor market.

Since education is not "terminal" and since so many students at the high school and two-year college level continue their education, educators at each level of education should consider meeting together to plan an articulated curriculum so that students can progress from one level of education to the next with the least possible duplication of course work and with the least number of lost credits. Educators at each level of education should set competency levels that need to be attained. Therefore, those students who are able to "re-enter" or continue their education at the next higher level with advance competency should be able to progress faster and complete the next level in a shorter period of

time. This type of articulated curriculum would permit students to "step in and out" of education throughout their working life to upgrade their skills and knowledge and prepare for higher-level positions.

Another implication of this study is that vocational counselors should be made aware of the types of positions and salary ranges after graduation from each level of education. These counselors can then specifically tell their counselees what to expect upon graduation from each education level.

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APPENDIX A



Code _____
1-2-3-4

SURVEY OF VOCATIONAL/TECHNICAL/PROFESSIONAL BUSINESS GRADUATES

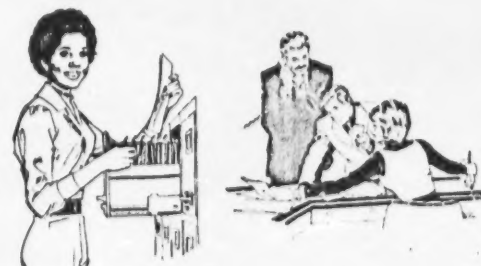
Fall, 1975

Please check the appropriate box or fill in the blanks as indicated. Do not be confused by the numbering system. This questionnaire is already coded for computer processing. NO SIGNATURE IS NECESSARY, but for statistical purposes only would you mind telling us . . .

5-6. What is your present age? _____

7. Are you ☐ Male (1)
☐ Female (2)

SECTION I - THIS SECTION IS DESIGNED TO DETERMINE WHAT GRADUATES ARE DOING AFTER GRAD- UATION.



8. What was the last degree or diploma that you earned?

- 1. ☐ High School Diploma
- 2. ☐ Associate Degree
- 3. ☐ Bachelor's Degree

9. What was your major while getting your last degree or diploma?

High School Diploma (Major of block program whether IOE, BOE, or COE)

- 1. ☐ Clerical
- 2. ☐ Stenographic
- 3. ☐ Account Clerk
- 4. ☐ Data Accounting
- 5. ☐ Data Processing
- 6. ☐ Transportation Clerk
- 7. ☐ Machines
- 8. ☐ Other: _____

10. Associate Degree

- 1. ☐ General Secretarial Tech.

2. ☐ Legal Secretarial Tech.

3. ☐ Executive Secretarial

4. ☐ Accounting

5. ☐ Business Management Tech.

6. ☐ Computer Programming Tech.

7. ☐ Traffic Management Tech.

8. ☐ Other: _____

11. Bachelor's Degree

1. ☐ Off. Adm. and Bus. Ed.

2. ☐ Organizational Adm.

3. ☐ Accounting

4. ☐ Operations Analysis

5. ☐ Logistics and Transportation

6. ☐ Other: _____

12. While you were pursuing your last diploma or degree, what was your employment status?

- 1. ☐ Participating in High School Cooperative Program
- 2. ☐ Worked part time in related area (includes summer work)

3. ☐ Worked part time in a non-related area (includes summer work)
4. ☐ Worked full time (35 or more hours per week) in related area
5. ☐ Worked full time (35 or more hours per week) in non-related area
6. ☐ Did not work at all

13-14. Now that you have graduated, what is your present status?

1. ☐ Employed full time
2. ☐ Employed full time, attend school full time
3. ☐ Employed full time, attend school part time
.....
4. ☐ Employed part time
5. ☐ Employed part time, attend school full time
6. ☐ Employed part time, attend school part time
.....
7. ☐ Unemployed
8. ☐ Attend school full time, unemployed
9. ☐ Attend school part time, unemployed
.....
10. ☐ Care for home full time, attend school full or part time
11. ☐ Care for home full time
12. ☐ Joined the military
13. ☐ Other: Please explain _____

15. Did you **ever** obtain a full-time job between graduation and October 1, 1975?

1. ☐ Yes
2. ☐ No

IF YOU HAVE **NEVER** BEEN EMPLOYED EITHER FULL TIME OR PART TIME AND DO NOT ATTEND SCHOOL, IMMEDIATELY GO TO SECTION III AND COMPLETE QUESTIONS 46 - 51.

16. If you are presently employed full time, is this the first full-time job you have ever held? If this question does not apply to you, please leave it blank.

1. ☐ Yes
2. ☐ No

IF YOU ANSWERED "YES" TO EITHER QUESTION 15 OR 16, PLEASE RESPOND TO THE REST OF THIS QUESTIONNAIRE IN TERMS OF THIS FIRST FULL-TIME JOB.

17. If you are presently employed either full time or part time, are you employed in the area or a related area to that in which you majored while getting your **last** degree or diploma? If this question does not apply to you, please leave it blank.

1. ☐ Yes
2. ☐ No

18. If you answered "No" to question 17, would you please explain why you are not employed in your major area or related area?

1. ☐ Changed my mind as to what I wanted to do with my career.
2. ☐ Could not find a job in my major area or a related area.
3. ☐ Decided to pursue another career because it paid better
4. ☐ Other: Please explain _____

19. If you attend school either full time or part time, are you preparing for a higher position in the same or related field to that in which you received your earlier degree or diploma? If this question does not apply to you, please leave it blank.

1. ☐ Yes
2. ☐ No

20. If you answered "No" to question 19, would you please explain why you are not preparing for a higher position in the same or related area?

1. ☐ Changed my mind as to what I wanted to do with my career.
2. ☐ The school that I presently attend does not have an area related to my former preparation.
3. ☐ Decided to prepare for a new career because there are more job opportunities in my new major.
4. ☐ Decided to learn a new career because I could earn more money.
5. ☐ Other: Please explain _____

21. If you **were** employed full time or part time while attending school on your last degree or diploma, what effect did your last degree or diploma have on your employment status? If this question does not apply to you, please leave it blank.

1. ☐ Secured a new job - same salary
2. ☐ Secured a new job - higher salary
3. ☐ Obtained a promotion in old position
4. ☐ No effect - maintained previous position
5. ☐ No effect - decided to continue my education
6. ☐ Part-time work was tied to education (co-op or work-study program) and had to give it up when I graduated.
7. ☐ Other: Please explain _____

SECTION II - THIS SECTION IS DESIGNED FOR ONLY THOSE GRADUATES WHO ARE WORKING IN THEIR FIRST FULL-TIME JOB AFTER GRADUATION OR HAVE HAD A FULL-TIME JOB SINCE GRADUATION.



If you answered "Yes" to either question 15 or 16, please answer the questions in this section. If you answered "No" to both questions 15 and 16, please leave this section blank and go immediately to Section III and complete questions 46 - 51.

22. What is the minimum educational requirement for your present full-time job?

1. ☐ None
2. ☐ High School diploma
3. ☐ 2-year college degree or 2 years of college
4. ☐ 4-year college degree
5. ☐ Unknown
6. ☐ Other: Please explain _____

23. a. What is your official title? _____

b. What is the title of the person to whom you report? _____

c. Please write a description of the duties that you perform? Use the back of this form if you need more space. (Please attach an official job description if you have one.)

24-26. How many people do you supervise?

- a. ☐ None
- b. _____ Actual number

27. In which of the following categories is your present annual salary?

1. ☐ Under \$3,000
2. ☐ \$3,000 to \$3,999
3. ☐ \$4,000 to \$4,999
4. ☐ \$5,000 to \$5,999
5. ☐ \$6,000 to \$7,499
6. ☐ \$7,500 to \$8,999
7. ☐ \$9,000 to \$10,499
8. ☐ \$10,500 to \$12,499
9. ☐ \$12,500 to \$14,999
10. ☐ \$15,000 and above

11. If you just graduated from high school and work on an hourly basis, what is your hourly wage.
\$ _____ Hours per week? _____

28. Are you presently working in Toledo or the Toledo area (within a 25-mile radius)?

1. ☐ Yes
2. ☐ No

SECTION III - THE FOLLOWING QUESTIONS WILL HAVE AN INFLUENCE ON FUTURE CURRICULUM PLANNING.



29-44. What business subjects in the curriculum you just finished helped you on your present job. Please rank your top three choices in order of importance from 1 (high) to 3 (third highest).

29. ☐ Typing
30. ☐ Shorthand
31. ☐ Office Machines
32. ☐ Business Communications
33. ☐ Management Principles
34. ☐ Office Management

35. ☐ Bookkeeping/Accounting
36. ☐ Business & Government
37. ☐ Programming
38. ☐ Transportation Management
39. ☐ Transportation Modes
40. ☐ Transportation Regulations
41. ☐ Business Logistics
42. ☐ Quantitative Methods
43. ☐ Student Teaching
44. ☐ Other: _____

APPENDIX B

UNIVERSITY OF CALIF.
LOS ANGELES

JUL 7 1978

CLEARINGHOUSE FOR
JUNIOR COLLEGES

Table XV

Age of Respondents From Selected Business Vocational/Technical
Professional High School, Two-Year College, and
Four-Year College for School Year 1974-75

Age	High School			Two-Year College			Four-Year College		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
17	1	12	13	--	--	--	--	--	--
18	3	90	93	--	--	--	--	--	--
19	1	3	4	1	1	2	--	--	--
20	--	1	1	7	18	25	--	--	--
21	--	--	--	4	15	19	4	1	5
22	--	--	--	4	3	7	20	4	24
23	--	--	--	5	2	7	32	1	33
24	--	--	--	3	2	5	7	3	10
25	--	--	--	2	2	4	5	0	5
26	--	--	--	3	--	3	8	1	9
27	--	--	--	4	--	4	7	--	7
28	--	--	--	2	--	2	4	--	4
29	--	--	--	2	--	2	5	--	5
30	--	--	--	1	--	1	3	--	3
31	--	--	--	1	--	1	5	--	5
32	--	--	--	3	--	3	1	--	1
33	--	--	--	--	--	--	1	1	2
34	--	--	--	1	1	2	3	--	3
35	--	--	--	--	1	1	1	--	1
36	--	--	--	--	--	--	--	--	--
37	--	--	--	1	--	1	--	--	--
38	--	--	--	2	--	2	1	--	1
39	--	--	--	--	--	--	1	--	1
40	--	--	--	--	--	--	--	1	1
41	--	--	--	1	--	1	1	--	1
42	--	--	--	--	--	--	--	--	--
43	--	--	--	--	--	--	--	--	--
44	--	--	--	--	--	--	--	--	--
45	--	--	--	--	1	1	--	--	--
50	--	--	--	--	--	--	--	1	1
51	--	--	--	--	1	1	--	--	--
52	--	--	--	--	--	--	--	1	1
Total	5	106	111*	47	47	94	109	14	123
Mean	18.0	17.9	17.9	27.3	22.8	25.0	25.4	28.9	25.8
Median	18.0	18.0	18.0	24.3	20.8	21.6	23.5	23.8	23.5

*One person did not record age.